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are interested in the problem of the distribution of plants. In this connection the fact that the genus was of almost universal distribution in the past, at least over the whole Northern hemisphere, until comparatively recent geologic times, is of the greatest interest and significance, not only in regard to its present distribution, but also in regard to the evolution of the living species. We are no longer under the necessity of accepting the almost impossible theory that the plants have migrated in modern times from one continent to another, but are irresistibly led to the rational conclusion that, inasmuch as the genus existed on both continents until very recent geologic times, the presence of the living species in their now isolated and widely separated ranges is merely due to the extinction of plants from former intermediate localities, probably due to the vast climatic changes wrought by the advent of the Ice Age. We should also be within the bounds of reason if we supposed that the two living species may have been merged in one common ancestor at no very remote date, and that the specific differences which we now note as existing between them have resulted from differences in environment since their isolation from each other.

We may also note, as of interest, that the leaves have constantly increased in size up to the present time. The American cretaceous species, if we except *N. arctica* Heer, from Greenland, began with leaves little more than an inch in diameter. In tertiary times they had developed to a diameter of four or five inches, while at the present day they reach a size of two feet or more.

Varieties of Solidago and Aster.

Solidago Canadensis glabrata n. var.

Stems low, 2–3 ft. high, puberulent above; leaves numerous, linear-lanceolate, upper ones entire, lower ones with a few sharp serratures, smooth above, somewhat pubescent on the midrib and veins beneath; panicles small, with slender branches; heads small; bracts of the involucre acute or acutish; rays short and few.

Mt. Desert Island, Me., *Rand* and *Redfield.* At several points along the Susquehanna river, Pa. In some states it approaches *S. rupestris* Raf.

SOLIDAGO PURSHII (*S. humilis* Pursh).

The name *humilis* of Miller's Dict., n. 16, antedates that of Pursh and was given to a low form of *S. Canadensis*, included perhaps in the variety just described.

ASTER NEMORALIS BLAKEI n. var.

Stems 1–2½ ft. high; leaves not crowded, 2½–3 inches long, ½–¾ of an inch wide, lanceolate, coarsely toothed or entire, margins not revolute; heads few or sometimes solitary; rays lilac-purple.

Gilmanton, N. H., *Blake*, 1864; Mt. Desert Island, Me., *Rand*, 1893.

Intermediate between the species and *A. acuminatus*. The type is confined chiefly to the bogs of the sea coast, whilst the variety extends inland, and is found even high up on the mountains. The specimens received from Mr. Rand are nearer to *A. acuminatus* than others that have been examined.

THOS. C. PORTER.

Botanical Notes.

Peculiar "Range" in an autœcious Uromyces. It goes without saying that parasitic fungi prefer certain portions of plants. Some confine themselves to the stem, others to the root, while a large number are limited in their growth to the foliage. The smuts, while wide feeders, usually produce their spores in the malformed ovary, and the ergots in a similar manner flourish in the inflorescence.

Attention is here called to the position occupied by the fruiting of two forms of a species of a rust, namely: *Uromyces Caladii*, which is very common upon *Peltandra Virginica*, and *Arisæma triphyllum*. In the former host the æcidia are confined almost exclusively to the petiole and midrib of the leaf with occasional cups along some of the secondary veins. The teleutospores, appearing later in the season, seem to prefer the blade of the leaf, but may be met with upon the petiole and midrib. In this case the greater limitation is on the side of the earlier stage of the parasite, namely, the æcidial form.